TEJUS
CONSULTANTS

No. TC / BBMP / YNK-PMC / 498 / 20-21

Date:

To
The Executive Engineer
Yelahanka Division
Bruhat Bangalore Mahanagara Palike
Bangalore – 560 092

Dear Sir

Sub: Improvements to Roads, drains and other developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yelahanka divison. (Package - 04)

In reference to the above subject, this is to bring to your kind notice that we have scrutinized the **First and Final bill** submitted by **B.B.UMESHA (M/S SMLP Asphalts) H No.385/1, near Anjaneya Temple, Bettahalasur Village & post, Bangalore - 562157** towards the above said work and arrived at an amount of **Rs 77328777.05 (Rupees Seven Crore Seventy Three Lakh Twenty Eight Thousand Seven Hundred Seventy Seven and Paise Five Only)** the work has been completed satisfactorily.

This is for your kind information.

Thank you and assuring you the best of our Services at all the times

TEJUS CONSULTANTS

For Tejus Consultants
(Nischal M)

ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪವಿಭಾಗ ಉಪವಿಭಾಗ,
ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-106

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TEST REPORT

Clients	Bruhath Bangalore Mahanagara Palike
Project	improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package-04).
Consultants	Tejus Consultants, Bangalore
Contractor	sri B B Umesh (M/s SMLPAsphalts)
Total Weight in gm:	3000

SIEVE ANALYSIS

Type of Material	40 mm down size	**Proposed Use**	PCC
Sample Location	1st main Road,Chikkabommasandra	**Date of Sampling**	04-09-2020
		Date of Testing	05-09-2020

IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	80	80	2.67	97.33	95-100
20.00mm	1412	1492	49.73	50.27	30-70
10.00mm	952	2444	81.47	18.53	10-35
4.75mm	442	2886	96.20	3.80	0-5
Pan	114	3000	100.00	0.00	

Remarks : Satisfactory / Not Satisfactory

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4.The material used in the site satisfied the standard of MORTH's 5th revision and hence can be used in the work.

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads,drains and other developments works ward No-03 & 04 under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04)
Consultants	Sri Sai Consultants, Bangalore
Contractor	sri B B Umesh (M/s SMLPAsphalts)

SIEVE ANALYSIS

Total Weight:	3000 gms		
Type of Material	Fine aggregate (M sand)	Proposed Use	PCC
Sample Location	1st main Road,Chikkabommasandra	Date of Sampling	04-09-2020
		Date of Testing	05-09-2020

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	210	210	7.00	93.00	90 - 100
2.36 mm	315	525	17.50	82.50	75 - 100
1.18 mm	416	941	31.37	68.63	55 - 90
0.600 mm	498	1439	47.97	52.03	35 -59
0.300 mm	762	2201	73.37	26.63	8-30
0.150 mm	640	2841	94.70	5.30	0 - 10
Pan	159	3000			-

Remarks : Satisfactory / Not Satisfactory

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Test Report on Cement

Project	improvements to Roads,drains and other developments works ward No-03 & 04 under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client	Bruhat Bangalore Mahanagar Palike
Consultant	tejus Consultants, Bangalore
Contractor	Sri B B Umesh (M/s SMLPAsphalts)
Sample ID	Cement (ACC Cement) OPC 43 Grade
Date of Sample Tested	05-09-2020
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	100 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	484 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	5 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	25 % to 35

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No. 58, 3rd main, 6th Cross, 1st Stage KHB Colony, Basaveshwaranagar, Bangalore - 560079. O : +91 80 23287532. tejusconsultants@gmail.com

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KERB STONE (CORE) TEST REPORT

Name of Work	:	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package-
Client	:	Bruhat Bengaluru Mahanagara Palike
Contractor	:	Sri B B Umesh (M/s SMLPAsphalts)
Consultant	:	tejusConsultants, Bangalore
No.of Sample Tested	:	3
Date of Testing	:	02-10-2020
Techinical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete	:	M_{15}

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	85.00	0.388	2324.79	1.70	0.960	29.54	15.04	16.25	15.60	19.50
2	50.00	85.00	0.368	2204.95	1.70	0.960	29.62	15.09	16.29	15.64	19.55
3	50.00	85.00	0.374	2240.90	1.70	0.960	29.72	15.14	16.35	15.69	19.62

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KERB STONE (CORE) TEST REPORT

Name of Work	:	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package-
Client	:	Bruhat Bengaluru Mahanagara Palike
Contractor	:	Sri B B Umesh (M/s SMLPAsphalts)
Consultant	:	tejusConsultants, Bangalore
No.of Sample Tested	:	3
Date of Testing	:	07-10-2020
Techinical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete	:	M_{15}

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	85.00	0.392	2348.75	1.70	0.962	29.70	15.13	16.34	15.72	19.64
2	50.00	85.00	0.383	2294.83	1.70	0.964	29.75	15.15	16.36	15.77	19.72
3	50.00	85.00	0.378	2264.87	1.70	0.975	29.82	15.19	16.40	15.99	19.99

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PRECAST SLAB (CORE) TEST REPORT

Client	:	Bruhat Bangalore Mahanagara Palike
Contractor	:	Sri B B Umesh (M/s SMLPAsphalts)
Name of Work	:	Improvements to Roads,drains and other developments works ward No-03 & 04 under road development head in chief minister navanagarothana grants of yalahanka division (package- 04).
No.of Sample Tested	:	3
Date of Testing	:	09-10-2020
Techinical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete	:	M20, 100mm thick

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	90.00	0.460	2603.07	1.80	0.960	39.52	20.13	21.74	20.87	26.09
2	50.00	90.00	0.472	2670.97	1.80	0.960	39.64	20.19	21.80	20.93	26.16
3	50.00	90.00	0.458	2591.75	1.80	0.960	39.56	20.15	21.76	20.89	26.11

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PRECAST SLAB (CORE) TEST REPORT

Client	:	Bruhat Bangalore Mahanagara Palike
Contractor	:	Sri B B Umesh (M/s SMLPAsphalts)
Name of Work	:	Improvements to Roads,drains and other developments works ward No-03 & 04 under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
No.of Sample Tested	:	3
Date of Testing	:	13-10-2020
Techinical Reference	:	IS 516-1959 (Reaffirmed 1999), SP-24 1983.
Grade of Concrete	:	M20 100mm thick

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	90.00	0.452	2557.80	1.80	0.960	39.48	20.11	21.72	20.85	26.06
2	50.00	90.00	0.464	2625.70	1.80	0.960	39.62	20.18	21.79	20.92	26.15
3	50.00	90.00	0.466	2637.02	1.80	0.960	39.56	20.15	21.76	20.89	26.11

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Project	Comprehensive Development to Roads And Drains in Hennur Baglur Main Road
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	Sri Sai Consultants, Bangalore
Contractor	Sri Puttaswamy Gowda

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

	Date:	17-10-2020
Layer no. or level	WMM I layer	
Depth of hole	200mm	
Field density:	1	2
Chainage	**From SWD to Rly Bridge '@55.00 LHS**	**From SWD to Rly Bridge '@125.00 LHS**
Wt. of wet material from hole (Ww) gms.	5974	5980
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10592	10588
Wt. of sand in hole+ cone (w3) gms.	4408	4412
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3328	3332
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.40	6.20
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.10	98.27
% compaction required	98%	98%

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Improvements to Roads,drains and other developments works ward No-03 & 04 under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).	
Consultants	Tejus Consultants, Bangalore	
Contractor	Sri B B Umesh (M/s SMLPAsphalts)	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	20 mm down size	Proposed Use	Concrete
Sample Location	At Plant	Date of Sampling	02-11-2020
		Date of Testing	03-11-2020

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	266	266	2.66	97.34	95 - 100
10.00 mm	4792	5058	50.58	49.42	25 - 55
4.75 mm	4328	9386	93.86	6.14	0 - 10
Pan	614	10000			

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client	Bruhat Bangalore Mahanagar Palike
Consultant	Tejus Consultants, Bangalore
Contractor	Sri B B Umesh (M/s SMLPAsphalts)
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	6th B cross road,chikkabommasandra

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	03-11-2020	30-11-2020	28 days	8.142	22500	494	21.96	21.93
2	03-11-2020	30-11-2020	28 days	8.140	22500	496	22.04	
3	03-11-2020	30-11-2020	28 days	8.136	22500	490	21.78	

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Test Report on Cement

Project	improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package-04).
Client	Bruhat Bangalore Mahanagar Palike
Consultant	Tejus Consultants, Bangalore
Contractor	sri B B Umesh (M/s SMLPAsphalts)
Sample ID	Cement (ACC Cement) OPC 43 Grade
Date of Sample Tested	03-11-2020
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	98Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	450 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	6 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	25 % to 35

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TEST REPORT	
Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Consultants	Tejus Consultants, Bangalore
Contractor	Sri B B Umesh (M/s SMLPAsphalts)

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Fine aggregate (M sand)	**Proposed Use**	concrete
Location/Source	At Plant	**Date of Sampling**	04-11-2020
Period of Soaking	24 hours	**Date of Testing**	05-11-2020

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	646	672	660	
B	Weight of oven - dry sample gm.	638	663	652	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1681	1697	1690	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.658	2.652	2.661	**2.657**
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.254	1.357	1.227	**1.279**

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client	Bruhat Bangalore Mahanagar Palike
Consultant	Tejus Consultants, Bangalore
Contractor	Sri B B Umesh (M/s SMLPAsphalts)
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	8th B cross road,chikkabommasandra

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	05-11-2020	02-12-2020	28days	8.136	22500	492	21.87	21.91
2	05-11-2020	02-12-2020	28days	8.152	22500	494	21.96	
3	05-11-2020	02-12-2020	28days	8.148	22500	493	21.91	

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ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ,
ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-106

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Name of Work	:	Improvements to Roads,drains and other developments works ward No-03 & 04 under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	Tejus Consultants, Bangalore
Contractor	:	Sri B B Umesh (M/s SMLPAsphalts)
Date of Testing	:	07-11-2020
Type of Mix	:	WMM
Sample I/D	:	WMM 1

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	8th A cross A-sector	Date of Sampling:	06-11-2020
		Date of testing:	07-11-2020
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	372	370	3.70	96.30	95-100
22.4	1796	2166	21.66	78.34	60-80
11.2	2252	4418	44.18	55.82	40-60
4.75	2012.0	6430	64.30	35.70	25-40
2.36	1392.0	7822	78.22	21.78	15-30
0.6	770.0	8592	85.92	14.08	8.0-22.0
0.075	884.0	9476	94.76	5.24	0-8
Pan	524.0	10000			
Total	10000.0				

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TEJUS CONSULTANTS

Consultant's Representative

TEJUS CONSULTANTS
No. 5B, 3rd main, 6th Cross, 1st Stage KHB Colony, Basaveshwaranagar, Bangalore - 560079, O : +91 80 23287532, tejusconsultants@gmail.com

TEJUS
CONSULTANTS

Project	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	Tejus Consultants, Bangalore
Contractor	Sri B B Umesh (M/s SMLPAsphalts)

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	WMM	**Date of Sampling**	**06-11-2020**
Sample Location	8th B cross B-sector	**Date of Testing**	**07-11-2020**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	350.00	356.00	338.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	268.00	272.00	258.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	82.00	84.00	80.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	23.43	23.60	23.67	
5	Average Aggregate impact value	(%)	23.56			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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PAVER BLOCK(COBBLE STONE) TEST REPORT

Client	Bruhat Bangalore Mahanagara Palike
Contractor:	Sri B B Umesh (M/s SMLPAsphalts)
Name of Work:	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
No.of Sample Tested:	3
Date of Testing:	09-11-2020
Techinical Reference:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.

Sl. No.	Details	FLEXURAL STRENGTH, fcr in N/mm^2	Charecteristic Copressive strength fck in N/mm^2	Average Charecteristic Copressive strength fck in N/mm^2
1	Paver Block	3.74	28.60	28.58
2	Paver Block	3.74	28.62	
3	Paver Block	3.74	28.52	

Results: Copressive strength of Paver Block(N/mm^2)= **28.58**

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Consultant's Representative

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Name of Work	:	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package-04).
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	Tejus Consultants, Bangalore
Contractor	:	Sri B B Umesh (M/s SMLPAsphalts)
Date of Testing	:	12-11-2020
Type of Mix	:	WMM
Sample I/D	:	WMM 2

GRADATION FOR WMM

(As per MORT&H 400-11)

Sample Location:	9th A cross B-sector	Date of Sampling:	11-11-2020
		Date of testing:	12-11-2020
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	388	388	3.88	96.12	95-100
22.4	2398	2786	27.86	72.14	60-80
11.2	2492	5278	52.78	47.22	40-60
4.75	1462.0	6740	67.40	32.60	25-40
2.36	790.0	7530	75.30	24.70	15-30
0.6	803.0	8333	83.33	16.67	8.0-22.0
0.075	996.0	9329	93.29	6.71	0-8
Pan	671.0	10000			
Total	10000.0				

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TEJUS
CONSULTANTS

PAVER BLOCK(COBBLE STONE) TEST REPORT

Client	Bruhat Bangalore Mahanagara Palike
Contractor:	Sri B B Umesh (M/s SMLPAsphalts)
Name of Work:	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
No.of Sample Tested:	3
Date of Testing:	12-11-2020
Techinical Reference:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.

Sl. No.	Details	FLEXURAL STRENGTH, fcr in N/mm^2	Charecteristic Copressive strength fck in N/mm^2	Average Charecteristic Copressive strength fck in N/mm^2
1	Paver Block	3.70	28.00	28.40
2	Paver Block	3.77	29.00	
3	Paver Block	3.72	28.20	

Results: Copressive strength of Paver Block(N/mm^2)= **28.40**

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TEJUS
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Project	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri B B Umesh (M/s SMLPAsphalts)

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	WMM	**Date of Sampling**	**16-11-2020**
Sample Location	**9th B cross A-sector**	**Date of Testing**	**17-11-2020**

Sl. No.	Description		Test No.			Spec Limit (%)
			1	2	3	
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	358.00	351.00	348.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	261.00	268.00	259.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	97.00	83.00	89.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	27.09	23.65	25.57	
5	Average Aggregate impact value	(%)	25.44			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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CONSULTANTS

PAVER BLOCK(COBBLE STONE) TEST REPORT

Client	Bruhat Bangalore Mahanagara Palike
Contractor:	Sri B B Umesh (M/s SMLPAsphalts)
Name of Work:	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
No.of Sample Tested:	3
Date of Testing:	17-11-2020
Techinical Reference:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.

Sl. No.	Details	FLEXURAL STRENGTH, fcr in N/mm^2	Charecteristic Copressive strength fck in N/mm^2	Average Charecteristic Copressive strength fck in N/mm^2
1	Paver Block	3.75	28.64	28.64
2	Paver Block	3.75	28.68	
3	Paver Block	3.74	28.60	

Results: Copressive strength of Paver Block(N/mm^2)= **28.64**

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TEJUS
CONSULTANTS

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri B B Umesh (M/s SMLP Asphalts)
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Location	3rd cross road ,chikkabommasandra

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	05-12-2020	01-01-2021	28 days	8.132	22500	698	31.02	31.02
2	05-12-2020	01-01-2021	28 days	8.140	22500	699	31.07	
3	05-12-2020	01-01-2021	28 days	8.142	22500	697	30.98	

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TEJUS CONSULTANTS

Authorised Signatory

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TEJUS
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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri B B Umesh (M/s SMLP Asphalts)
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Location	6th cross road ,chikkabommasandra

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	05-12-2020	11-12-2020	7 days	8.318	22500	463	20.58	20.62
2	05-12-2020	11-12-2020	7 days	8.321	22500	465	20.67	
3	05-12-2020	11-12-2020	7 days	8.325	22500	464	20.62	

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TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).	
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	Sri B B Umesh (M/s SMLPAsphalts)	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	20 mm down size	Proposed Use	Concrete
Sample Location	Plant/At site	Date of Sampling	05-12-2020
		Date of Testing	06-12-2020

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	270	270	2.70	97.30	95 - 100
10.00 mm	4850	5120	51.20	48.80	25 - 55
4.75 mm	4225	9345	93.45	6.55	0 - 10
Pan	655	10000			

Remarks : Satisfactory / Not Satisfactory

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).	
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	Sri B B Umesh (M/s SMLPAsphalts)	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	20 mm down size	Proposed Use	Concrete
Sample Location	Plant/At site	Date of Sampling	05-12-2020
		Date of Testing	06-12-2020

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	275	275	2.75	97.25	95 - 100
10.00 mm	4850	5125	51.25	48.75	25 - 55
4.75 mm	4221	9346	93.46	6.54	0 - 10
Pan	654	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

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Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division (package- 04).				
Consultants	TEJUS CONSULTANTS				
Contractor	Sri B B Umesh (M/s SMLPAsphalts)				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**		**Proposed Use**	Concrete	
Sample Location	At Site/Plant		**Date of Sampling**	05-12-2020	
			Date of Testing	06-12-2020	
IS Sieve Size (in mm)	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
20.0	0	0	0	100	100
12.5	543	543	5.43	94.57	90-100
10.0	4627	5170	51.70	48.30	40-85
4.75	4514	9684	96.84	3.16	0-10
Pan	316	10000			

Remarks : Satisfactory / Not Satisfactory

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Consultants	Tejus Consultants, Bangalore
Contractor	Sri B B Umesh (M/s SMLPAsphalts)

SIEVE ANALYSIS

Total Weight:	3000 gms		
Type of Material	Fine aggregate (River Sand/ M sand)	Proposed Use	concrete
Sample Location	At Site/Plant	Date of Sampling	05-12-2020
		Date of Testing	06-12-2020

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	230	230	7.67	92.33	90 - 100
2.36 mm	300	530	17.67	82.33	75 - 100
1.18 mm	410	940	31.33	68.67	55 - 90
0.600 mm	482	1422	47.40	52.60	35 -59
0.300 mm	710	2132	71.07	28.93	8-30
0.150 mm	625	2757	91.90	8.10	0 - 10
Pan	243	3000			-

Remarks : Satisfactory / Not Satisfactory

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TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads,drains and other developments works ward No-03 & 04 under road development head in chief minister navanagarothana grants of yalahanka division (package- 04)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri B B Umesh (M/s SMLPAsphalts)

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Fine aggregate (River Sand/ M sand)	Proposed Use	concrete
Location/Source	At Site/Plant	Date of Sampling	05-12-2020
Period of Soaking	24 hours	Date of Testing	06-12-2020

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	653	682	661	
B	Weight of oven - dry sample gm.	643	674	653	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1685	1703	1690	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.646	2.654	2.654	2.651
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.555	1.187	1.225	1.322

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Consultants	Tejus Consultants, Bangalore
Contractor	Sri B B Umesh (M/s SMLPAsphalts)

SIEVE ANALYSIS

Total Weight:	3000 gms		
Type of Material	Fine aggregate (River Sand/ M sand)	Proposed Use	concrete
Sample Location	At Site/Plant	Date of Sampling	05-12-2020
		Date of Testing	06-12-2020

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	229	229	7.63	92.37	90 - 100
2.36 mm	305	534	17.80	82.20	75 - 100
1.18 mm	413	947	31.57	68.43	55 - 90
0.600 mm	480	1427	47.57	52.43	35 -59
0.300 mm	715	2142	71.40	28.60	8-30
0.150 mm	624	2766	92.20	7.80	0 - 10
Pan	234	3000			-

Remarks : ✓ Satisfactory / Not Satisfactory

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Test Report on Cement

Project	Improvements to Roads,drains and other developments works ward No-03 & 04 under road development head in chief minister navanagarothana grants of yalahanka division.(package-04).
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri B B Umesh (M/s SMLPAsphalts)
Sample ID	Cement
Date of Sample Tested	06-12-2020
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	104	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	484	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	5.00	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	29.00%	25 % to 35

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Project	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	Tejus Consultants, Bangalore		
Contractor	Sri B B Umesh (M/s SMLPAsphalts)		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	11-12-2020		
Layer no. or level	GSB layer		
Depth of hole	200mm		
Field density:	1	2	2
Chainage	From SWD to Rly Bridge '@50.00	From SWD to Rly Bridge '@130.00	From SWD to Rly Bridge '@220.00
Wt. of wet material from hole (Ww) gms.	5982	5978	5974
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10576	10578	10575
Wt. of sand in hole+ cone (w3) gms.	4424	4422	4425
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3344	3342	3345
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.36	2.36	2.36
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.54	98.63	98.47
% compaction required	98%	98%	98%

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TEST REPORT	
Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	improvements to Roads,drains and other developments works ward No-03 & 04 under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Consultants	tejus Consultants, Bangalore
Contractor	sri B B Umesh (M/s SMLPAsphalts)

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Fine aggregate (M sand)	Proposed Use	PCC
Location/Source	3rd cross road ,chikkabommasandra	Date of Sampling	14-12-2020
Period of Soaking	24 hours	Date of Testing	15-12-2020

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	669	651	658	
B	Weight of oven - dry sample gm.	660	643	651	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1695	1684	1690	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.651	2.657	2.679	2.662
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.364	1.244	1.075	1.228

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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	Tejus Consultants, Bangalore
Contractor :	Sri B B Umesh (M/s SMLPAsphalts)
Date of Testing :	15-12-2020
Type of Mix :	Tack coat
Sample I/D :	1

Determination	Unit	Test No		
		1	2	3
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.786	0.774	0.812
Final weight of plate after application of tack Coat (c)	Kg	0.809	0.797	0.835
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.251	0.251	0.251
Average	Kg/sq.m	0.251		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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TEJUS CONSULTANTS No. 58, 3rd main, 6th Cross, 1st Stage KHB Colony, Basaveshwaranagar, Bangalore - 560079. ☎ +91 80 23287532, tejusconsultants@gmail.com

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Name of Work	:	Improvements to Roads, drains and other developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing	:	15-12-2020
Type of Mix	:	Tack coat DBM
Sample I/D	:	2

DETERMINATION OF RATE OF SPREAD TACK COAT

Determination	Unit	Test No	
		1	2
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.770	0.764
Final weight of plate after application of tack Coat (c)	Kg	0.793	0.787
Weight of tack coat (d=c-b)	Kg	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.256	0.256
Average	Kg/sq.m	0.256	
Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

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GRADATION FOR BC
(As per MORT&H 500-18,Grading-2)

Name of Work	:	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	Tejus Consultants, Bangalore
Contractor	:	Sri B B Umesh (M/s SMLPAsphalts)
Date of Testing	:	15-12-2020
Type of Mix	:	BC
Sample I/D	:	BC1

Sample Location:	At plant	Date of Sampling:	14-12-2020
Type of material & Purpose:	BC	Date of testing:	15-12-2020
		Oven Dry Wt.(gms):	1200.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	130	130.0	10.83	89.17	79 - 100
9.50	106	236.0	19.67	80.33	71 - 95
4.75	228	464.0	38.67	61.33	53 - 71
2.360	132	596.0	49.67	50.33	42 - 58
1.180	142	738.0	61.50	38.50	34 - 48
0.600	105	843.0	70.25	29.75	26 - 38
0.300	98	941.0	78.42	21.58	18 - 28
0.150	86	1027.0	85.58	14.42	12 - 20
0.075	90	1117.0	93.08	6.92	4 - 10
Pan	83.0				
Total	1200.0				

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TEJUS CONSULTANTS

Authorised Signatory

TEJUS CONSULTANTS
No. 58, 3rd main, 6th Cross, 1st Stage KHB Colony, Basaveshwaranagar, Bangalore - 560079. O: +91 80 23287532, tejusconsultants@gmail.com

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GRADATION FOR GSB
(As per MORT&H 400-1,Grading-II)

Name of Work	:	Improvements to Roads,drains and other developments works ward No-03 & 04 under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	Sri B B Umesh (M/s SMLPAsphalts)
Date of Testing	:	15-12-2020
Type of Mix	:	GSB
Sample I/D	:	GSB3

Sample Location:	At Junction Near Agara lake	Date of Sampling:	14-12-2020
		Date of testing:	15-12-2020
Type of material & Purpose:	GSB	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
75	0	0	0.00	100.00	-
53	0	0	0.00	100.00	100.00
26.5	2204	2204	22.04	77.96	70-100
9.5	2592	4796	47.96	52.04	50-80
4.75	872	5668	56.68	43.32	40-65
2.36	1212	6880	68.80	31.20	30-50
0.425	1922	8802	88.02	11.98	10-15
0.075	820	9622	96.22	3.78	<5
Pan	378.0				
Total	10000.0				

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TEJUS CONSULTANTS

TEJUS CONSULTANTS
No. 58, 3rd main, 6th Cross, 1st Stage KHB Colony, Basaveshwaranagar, Bangalore - 560079, O: +91 80 23287532, tejusconsultants@gmail.com

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TEST REPORT	
Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of valahanka division.(package- 04)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	sri B B Umesh (M/s SMLPAsphalts)

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Fine aggregate (M sand)	Proposed Use	PCC
Location/Source	6th cross road chikkabommasandra	Date of Sampling	15-12-2020
Period of Soaking	24 hours	Date of Testing	16-12-2020

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	647	657	675	
B	Weight of oven - dry sample gm.	638	648	665	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1682	1689	1699	
E	Bulk specific gravity $\frac{B}{(C + A - D)}$	2.658	2.667	2.649	2.658
G	Absorption (%) $\frac{(A - B) * 100}{B}$	1.411	1.389	1.504	1.434

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ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-106

TEJUS CONSULTANTS
No. 58, 3rd main, 6th Cross, 1st Stage, BEML Layout, Basaveshwaranagar, Bangalore - 560079, O: +91 80 23287532, tejusconsultants@gmail.com

Project	Improvements to Roads,drains and other developments works ward No-03 & 04 under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	tejus Consultants, Bangalore
Contractor	Sri B B Umesh (M/s SMLPAsphalts)

FLAKINESS AND ELONGATION INDICES (IS 2386, PART I)

Type of Material	WMM	Proposed Use	WMM
Sample Location	6th A Main,A-soctor	Date of Sampling	15-12-2020
		Date of Testing	16-12-2020

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	628	82	526	70
16.0	12.5	1123	128	988	112
12.5	10.0	776	54	730	55
10.0	6.3	605	60	552	48
Total		3132	324	2796	285

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.34
Elongation Index(%):	10.19
Combined FI+EL (%)	20.54

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Consultant's Representative

TEJUS CONSULTANTS

TEJUS CONSULTANTS
No. 58, 3rd main, 8th Cross, 1st Stage KHB Colony, Basaveshwaranagar, Bangalore - 560079, O: +91 80 23287532, tejusconsultants@gmail.com

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Name of Work	:	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package-04).
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri B B Umesh (M/s SMLPAsphalts)
Date of Testing	:	17-12-2020
Type of Mix	:	WMM
Sample I/D	:	WMM 2

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	13th B main ,B-sector	Date of Sampling:	16-12-2020
		Date of testing:	17-12-2020
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	388	388	3.88	96.12	95-100
22.4	2132	2520	25.20	74.80	60-80
11.2	2342	4862	48.62	51.38	40-60
4.75	1994.0	6856	68.56	31.44	25-40
2.36	798.0	7654	76.54	23.46	15-30
0.6	822.0	8476	84.76	15.24	8.0-22.0
0.075	996.0	9472	94.72	5.28	0-8
Pan	528.0	10000			
Total	10000.0				

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FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project :	**Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).**
Client :	**BRUHAT BANGALORE MAHANAGARA PALIKE**
Consultant :	**M/s Tejus Consultants**
Contractor:	**Sri B B Umesh (M/s SMLPAsphalts)**

Type of Material	BC	**Proposed Use**	**BC**
Sample Location	At plant	**Date of Sampling**	**22-12-2020**
		Date of Testing	**23-12-2020**

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	833	75	932	72
16.0	12.5	1396	120	1246	118
12.5	10.0	595	70	448	56
10.0	6.3	470	58	432	72
Total		**3204**	**323**	**3058**	**318**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.08
Elongation Index(%):	10.40
Combined FI+EL (%)	20.48

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No. 58, 3rd main, 6th Cross, College layout, Vishweshwarnagar, Bangalore - 560079, O: +91 80 23287532, tejusconsultants@gmail.com

ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಲಯ.
ಬ.ಬ.ಮ.ಪ. ಬೆಂಗಳೂರು-106

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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	Tejus Consultants, Bangalore
Contractor :	Sri B B Umesh (M/s SMLPAsphalts)
Date of Testing :	23-12-2020
Type of Mix :	Tack coat
Sample I/D :	2

Determination	Unit	Test No		
		1	2	3
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.752	0.763	0.802
Final weight of plate after application of tack Coat (c)	Kg	0.775	0.786	0.825
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.251	0.252	0.252
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Project	Improvements to Roads,drains and other developments works ward No-03 & 04 under road development head in chief minister navanagarothana grants of yalahanka division (package- 04).
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri B B Umesh (M/s SMLPAsphalts)

FLAKINESS AND ELONGATION INDICES (IS 2386, PART I)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	15th B cross B-sector	**Date of Sampling**	**24-12-2020**
		Date of Testing	**25-12-2020**

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D) gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	609	84	520	73
16.0	12.5	1124	118	986	112
12.5	10.0	778	58	728	58
10.0	6.3	612	60	560	48
Total		**3123**	**320**	**2794**	**291**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.25
Elongation Index(%):	10.42
Combined Index (%)	20.66

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GRADATION FOR BC
(As per MORT&H 500-18,Grading-2)

Name of Work	:	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	Sri B B Umesh (M/s SMLPAsphalts)
Date of Testing	:	26-12-2020
Type of Mix	:	BC
Sample I/D	:	BC3

Sample Location:	At plant	Date of Sampling:	25-12-2020
Type of material & Purpose:	BC	Date of testing:	26-12-2020
		Oven Dry Wt.(gms):	1200.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100 00
13.20	161	161.0	13.42	86.58	79 - 100
9.50	104	265.0	22.08	77.92	71 - 95
4.75	205	470.0	39.17	60.83	53 - 71
2.360	115	585.0	48.75	51.25	42 - 58
1.180	125	710.0	59.17	40.83	34 - 48
0.600	110	820.0	68.33	31.67	26 - 38
0.300	105	925.0	77.08	22.92	18 - 28
0.150	80	1005.0	83.75	16.25	12 - 20
0.075	92	1097.0	91.42	8.58	4 - 10
Pan	103.0				
Total	1200.0				

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Project	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri B B Umesh (M/s SMLPAsphalts)

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	DBM	**Date of Sampling**	**25-12-2020**
Sample Location	At plant	**Date of Testing**	**26-12-2020**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	394.00	386.00	366.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	300.00	296.00	280.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	94.00	90.00	86.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	23.86	23.32	23.50	
5	Average Aggregate impact value	(%)	23.56			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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Project	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri B B Umesh (M/s SMLPAsphalts)

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	WMM	**Date of Sampling**	**25-12-2020**
Sample Location	**5th B cross B-sector**	**Date of Testing**	**26-12-2020**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	355.00	354.00	343.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	264.00	264.00	260.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	91.00	90.00	83.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	25.63	25.42	24.20	
5	Average Aggregate impact value	(%)	25.09			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project :	**Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).**
Client :	**BRUHAT BANGALORE MAHANAGARA PALIKE**
Consultant :	**M/s Tejus Consultants**
Contractor:	**Sri B B Umesh (M/s SMLPAsphalts)**

Type of Material	**BC**	**Proposed Use**	**BC**
Sample Location	**At plant**	**Date of Sampling**	**25-12-2020**
		Date of Testing	**26-12-2020**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	634	75	560	56
16.0	12.5	1200	106	1092	84
12.5	10.0	513	63	452	58
10.0	6.3	512	55	435	45
Total		**2859**	**299**	**2539**	**243**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.46
Elongation Index(%):	9.57
Combined FI+EI, (%)	20.03

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FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project :	Improvements to Roads,drains and other developments works ward No-03 & 04.under road development head in chief minister navanagarothana grants of yalahanka division.(package- 04).
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor:	Sri B B Umesh (M/s SMLPAsphalts)

Type of Material	BC	Proposed Use	BC
Sample Location	At plant	Date of Sampling	25-12-2020
		Date of Testing	26-12-2020

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	635	73	562	56
16.0	12.5	1200	108	1092	82
12.5	10.0	512	64	448	56
10.0	6.3	510	54	456	40
Total		2857	299	2558	234

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.47
Elongation Index(%):	9.15
Combined FI+EL (%)	19.61

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